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New York State Department of Environmental Conservation
Division of Fish, Wildlife and Marine Resources
Wildlife Pathology Unit
108 Game Farm Road, Delmar, NY 12054

John P. Cahill
Commissioner

M E M O R A N D U M

TO: ECO Harry Young

FROM: Ward Stone, Wildlife Pathologist

SUBJECT: Striped Skunk (Log #98-15-27) and Gray Fox (Log #:98-15-28)

DATE: April 22, 1998

The following is a summary of history and findings for these cases.

History: The skunk and gray fox were found dead by yourself on March 30, 1998 from locations adjacent to the Richardson Hill Toxic Waste Site, Masonville (Delaware County), New York. In the same area 2 dogs, 1 cats, and 1 opossum had also died recently. The skunk and gray fox were submitted to the Wildlife Pathology Unit on March 30, 1998 and the necropsies were performed the same day.

Findings:

Skunk (98-15-27): This was an adult, female, skunk, in good flesh (1.57 kg) with abundant fat reserves. A small laceration was present under the chin. There were no fractures. The skeletal musculature appeared pale. Areas of hemorrhage were present in the lungs. The uterus contained 4 fetuses and the amniotic fluid was blood-tinged. The urine in the urinary bladder was bloody. Hemorrhage had occurred in the small intestine. The skunk carcass was fresh and showed little evidence of autolysis. The stomach contained small mammal fur and small bird feathers.

The necropsy suggested poisoning with an anticoagulant rodenticide. However, since skunks are a rabies-vector species, a rabies test was ordered on the skunks brain. When the New York State Department of Health rabies test was negative for rabies, the liver was then sent to the chemist at the Illinois Department of Agriculture's Animal Disease Laboratory for anticoagulant screen.

Toxicology (See attached lab report): The anticoagulant Brodifacoum was found at 0.3 ppm in the skunk.

Diagnosis: Death due to Brodifacoum poisoning.

Gray Fox (98-15-28): An adult, male, gray fox (3.25 kg), in fair flesh, with no visible fat. No fractures or signs of trauma. The lungs were hemorrhagic and bloody fluid was present in the thorax. Hemorrhage was present in the musculature on the left side of the rib cage. The musculature was pale. The stomach contained a piece of small mammal skin with attached hair. The gray fox had been dead for a number of days (estimate about a week), and autolysis was well underway.

A test for rabies was negative on the gray fox. The liver was sent to the Illinois Department of Agriculture's Animal Disease Laboratory for anticoagulant screen.

Reading file
5/6/98 kcm.

Toxicology: (See attached lab report): Brodifacoum was found at 0.02 ppm in the liver of the gray fox.

Diagnosis: Poisoning with the anticoagulant rodenticide Brodifacoum.

Comments: The level of toxicant is probably lower in the gray fox because of loss of toxicant during the decay process. Someone probably has been putting out Brodifacoum for rodent control and animals like dogs, cats, opossums, skunks and gray foxes are being secondarily poisoned. However, Brodifacoum is sometimes misused and placed in meat baits that are attractive to the above species. My guess is that secondary poisoning from rodents poisoned with Brodifacoum is the most likely scenario.

I have reviewed the pathological diagnosis report you provided on April 15, 1998 on the cat. Since a thorough necropsy and no toxicology is provided a definitive diagnosis can not be made. However, the histopathological findings of liver and kidney hemorrhage may well be due to an anticoagulant rodenticide. If liver tissue was frozen, it should be tested for Brodifacoum.

We are interested in other wildlife mortalities you may find on or near the toxic waste site. It would not be surprising to see mortalities occur in other rodent consumers such as owls and red-tailed hawks.

If you have further questions, I can be reached at (518) 478-3032.

Ward B. Stone
Wildlife Pathologist

Encl.
WBS:rd
cc: C. Brassard (USEPA)
A. Johnsen
L. Skinner
T. Sinnot
Toxicant Cases Binder

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Illinois Department of Agriculture

Bureau of Animal Disease Laboratory

ANIMAL DISEASE LABORATORY
9732 SHATTUC ROAD
CENTRALIA, ILLINOIS 62801

TOXICOLOGY DEPARTMENT REPORT

VETERINARIAN

NEW YORK WILDLIFE
108 GAME FARM RD
DELMAR NY 12054

OWNER

NEW YORK WILDLIFE 98-15-27

ACCESSION NUMBER: 9800011313

DATE REPORTED: 04/16/1998

DATE RECEIVED: 04/08/1998

SPECIMEN RECEIVED: SKUNK LIVER 98-15-27

SPECIES: SKUNK

TEST REQUESTED: ANTICOAGULANTS

RESULTS:

BRODIFACOUM - 0.3 PPM

OTHER ANTICOGULANTS - NONE DETECTED

THE FOLLOWING TOXINS ARE INCLUDED IN THE ANTICOAGULANT SCREEN

Fumarin	Valone
Racumin	Chlorophacinone
Warfarin	Bromadiolone
Coumachlor	4-OH Warfarin
Difenacoum	6-OH Warfarin
Brodifacoum	7-OH Warfarin
Diphacinone	8-OH Warfarin
Pindone	

CHEMIST

APPROVED

LABORATORY SUPERVISOR J. D. REYNOLDS

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Illinois Department of Agriculture

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TOXICOLOGY DEPARTMENT REPORT

VETERINARIAN

NEW YORK WILDLIFE
108 GAME FARM RD
DELMAR NY 12054

OWNER

NEW YORK WILDLIFE 98-15-28

ACCESSION NUMBER: 9800011314

DATE REPORTED: 04/16/1998

DATE RECEIVED: 04/08/1998

SPECIES:

SPECIMEN RECEIVED: GRAY FOX LIVER 98-15-28

TEST REQUESTED: ANTICOAGULANTS

RESULTS:

BRODIFACOUM - 0.02 PPM

OTHER ANTICOAGULANTS - NONE DETECTED

THE FOLLOWING TOXINS ARE INCLUDED IN THE ANTICOAGULANT SCREEN

Fumarin	Valone
Racumin	Chlorophacinone
Warfarin	Bromadiolone
Coumachlor	4-OH Warfarin
Difenacoum	6-OH Warfarin
Brodifacoum	7-OH Warfarin
Diphacinone	8-OH Warfarin
Pindone	

CHEMIST

APPROVED Steve Kasten

LABORATORY SUPERVISOR J. D. REYNOLDS

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